UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,874	12/17/2001	Roy Franklin Quick JR.	PA000310	2739

23696   7590   07/16/2007

QUALCOMM INCORPORATED
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EXAMINER
POWERS, WILLIAM S

ART UNIT	PAPER NUMBER
2134	

NOTIFICATION DATE	DELIVERY MODE
07/16/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _21 March 2007_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-39_ is/are pending in the application.

    4a) Of the above claim(s) _5,15 and 33_ is/are withdrawn from consideration.

5) ☐ Claim(s) _11-14,16-20,29-32 and 34-36_ is/are allowed.

6) ☐ Claim(s) _1-4,6-10,21-28 and 37-39_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

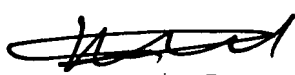8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _04 April 2002_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on 3/21/2007, PROSECUTION IS

HEREBY REOPENED. The new grounds of rejection in view of US Patent No.

7,222,238 to Bleumer et al. are set forth below.

To avoid abandonment of the application, appellant must exercise one of

the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a

reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31

followed by an appeal brief under 37 CFR 41.37. The previously paid notice of

appeal fee and appeal brief fee can be applied to the new appeal. If, however,

the appeal fees set forth in 37 CFR 41.20 have been increased since they were

previously paid, then appellant must pay the difference between the increased

fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening

prosecution by signing below:

Response to Arguments

2.   Applicant's arguments, see Appeal Brief, pages 8-11 and 13-15, filed

3/21/2007, with respect to the rejection(s) of claims 1-4, 6-10 and 21-28 under 35

USC 103(a) have been fully considered and are persuasive. Therefore, the

rejection has been withdrawn. However, upon further consideration, a new

ground(s) of rejection is made in view of US Patent No. 7,222,238 to Bleumer et

al.

3.   Applicant's arguments, see Appeal Brief, pages 12-15, filed 3/21/2007,

with respect to claims 11-20, 29-32 and 34-36 have been fully considered and

are persuasive. The 35 USC 103(a) rejection of the claims has been withdrawn.

4.   Applicant's arguments filed 3/21/2007 regarding claims 37-39 have been

fully considered but they are not persuasive. The Applicant applies the same

argument to claim 37 as is applied to claim 1, but there is no mention of hashing

of any number in claim 37. Therefore, the Applicant is arguing limitations not

present in the claims. For at least this reason, the 35 USC 103(a) rejection of

claims 37-39 is maintained.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 1-4, 6-10 and 21-28 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention.

As to claim 1, it is unclear from the claim language what the method steps of hashing of the counter value and searching the assignment table have to do with generating a temporary identifier mentioned in the preamble.

As to claims 2-10, they are rejected based upon their dependency upon a rejected base claim.

As to claim 21, it is not clear from the claim language what element(s) of the claim is/are encrypted to generate the temporary identifier.

As to claims 22-28, they are rejected based upon their dependency upon a rejected base claim.

Claim Rejections - 35 USC § 103

7.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8.   Claims 1, 3, 6-9, 21-28 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,044,069 to Wan in view of U.S. Patent No. 7,222,238 to Bleumer et al. (hereinafter Bleumer).

As to claim 1 as best understood, Wan teaches:

a.   Initializing an assignment table (a database that contains

information for each mobile subscriber associated with a particular VLR)

(Wan, column 17, lines 1-13).

b.   Maintaining a counter value (Wan, column 17, lines 28-40).

Wan does not expressly mention the hashing of the counter value. However, in

an analogous art, Bleumer teaches:

c.   Hashing counter value to obtain an assignment table index (counter

is hashed to generate to authenticate the registration of messages)

(Bleumer, column 8, line 55-column 9, line 50).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to implement the registration of mobile nodes of

with the authorization and authentication procedures of Bleumer in order to

provide a secure environment for messaging and transactions as suggested by

Bleumer (Bleumer, column 1, lines 5-10).

Wan as modified further teaches:

d.   Storing a TMSI in said VLR database (Wan, column 17, lines 14-

22).

As to claim 3, Wan as modified teaches a counter with a predetermined

number of bits (Wan, column 17, lines 28-37).

As to claim 6, Wan as modified teaches storing identifying numbers in the

VLR (Wan, column 17, lines 1-5).

As to claims 7 and 22, Wan as modified teaches storing the counter value with the identification numbers (Wan, column 17, 23-45).

As to claims 8 and 24, Wan as modified teaches the use of a temporary mobile subscriber (or station) identifier (Wan, column 17, lines 14-22).

As to claims 9 and 23, Wan as modified teaches the use of an international mobile subscriber identifier (Wan, column 17, lines 1-5).

As to claim 21 as best understood, Wan teaches:

a.   A mobile switching center (Wan, column 17, lines 14-15).

b.   A visitor location register (Wan, column 17, lines 1-5).

c.   Storing and assigning identifiers (Wan, column 17, lines 1-45).

d.   Maintaining a counter value (Wan, column 17, lines 28-30).

e.   Generating a temporary identifier (Wan, column 17, lines 1-45).

Wan does not expressly mention using encryption to generate the temporary identifier. However, in an analogous art, Bleumer teaches encrypting a counter value (counter is hashed to generate to authenticate the registration of messages) (Bleumer, column 8, line 55-column 9, line 50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the registration of mobile nodes of with the authorization and authentication procedures of Bleumer in order to

provide a secure environment for messaging and transactions as suggested by Bleumer (Bleumer, column 1, lines 5-10).

As to claim 25, Wan as modified teaches means for encrypting and generating a temporary identifier encrypts said counter value (Bleumer, column 8, line 55-column 9, line 50).

As to claims 26, Wan as modified teaches the use of a hash function (Bleumer, column 8, line 55-column 9, line 50).

As to claim 27, Wan as modified teaches hashing the counter value to produce an assignment table index (Bleumer, column 8, line 55-column 9, line 50).

As to claim 28, Wan as modified teaches said means for encrypting encrypts said assignment table index (Bleumer, column 8, line 55-column 9, line 50).

As to claim 37, Wan teaches:

a.   A first code segment for initializing an assignment table (a database that contains information for each mobile subscriber associated with a particular VLR) (Wan, column 17, lines 1-13).

b.   A second code segment for maintaining a counter value (Wan,

column 17, lines 28-40).

Wan does not expressly mention obtaining an assignment table index. However,

in an analogous art, Bleumer teaches:

c.   A third code segment for obtaining an assignment table index

(counter is hashed to generate to authenticate the registration of

messages) (Bleumer, column 8, line 55-column 9, line 50).

Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to implement the registration of mobile nodes of

with the authorization and authentication procedures of Bleumer in order to

provide a secure environment for messaging and transactions as suggested by

Bleumer (Bleumer, column 1, lines 5-10).

Wan as modified further teaches:

d.   A fourth code segment for searching said assignment table for an

available entry (Bleumer, column 8, line 55-column 9, line 50).

e.   A fifth code segment for encrypting said counter value to obtain

said temporary identifier (counter is hashed to generate to authenticate

the registration of messages) (Bleumer, column 8, line 55-column 9, line

50).

As to claim 38, Wan as modified teaches said fifth code segment

comprises an encryption cipher corresponding to said counter value (counter is

hashed to generate to authenticate the registration of messages) (Bleumer, column 8, line 55-column 9, line 50).

As to claim 39, Wan as modified teaches said third code segment comprises a hash function for hashing said counter value to obtain said assignment table index (counter is hashed to generate to authenticate the registration of messages) (Bleumer, column 8, line 55-column 9, line 50).

9.   Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,044,069 to Wan in view of U.S. Patent No. 7,222,238 to Bleumer et al. (hereinafter Bleumer), as applied to claim 1 above, in further view of U.S. Patent No. 5,123,111 to Delory et al. (hereto referred to as Delory).

As to claim 2, Wan implicitly teaches a limited number of mobile subscribers in a service area because the number of TMSI is limited to a 32-bit number (column 17, lines 14-15), but does not expressly mention the actual number of users. However, in an analogous art, Delory teaches the capacity of up to 256,000 users in a service area depending on the addressing mode (column 5, line 57-column 6, line 11). In this way, the actual number of remaining available addresses is known.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to implement the invention of Wan with the

predetermined number of users of Pfundstein. In this way, the actual number of

remaining available addresses is known.

10.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 6,044,069 to Wan in view of U.S. Patent No. 7,222,238 to

Bleumer et al. (hereinafter Bleumer) as applied to claim 3 above, and further in

view of "Handbook of Applied Cryptography" by Menezes et al. (hereto referred

to as Menezes).

As to claim 4, Wan as modified does not expressly mention bit length of

the encoding method. However, in an analogous art, Menezes teaches using an

encryption cipher of a length equal to said first predetermined number of bits (the

use of a block cipher "which maps n-bit plaintext blocks to n-bit cipher text

blocks" (Menezes, page 224, 4th paragraph) in order to avoid data expansion).

Therefore, it would be obvious to one of ordinary skill in the art at the time

the invention was made to implement the invention of Wan as modified with the

block cipher of Menezes in order to avoid data expansion as suggested by

Menezes (Menezes, page 224, 4th paragraph).

11.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 6,044,069 to Wan in view of U.S. Patent No. 7,222,238 to

Bleumer et al. (hereinafter Bleumer) as applied to claim 1 above, and further in

view of "Data Structures and Other Objects Using C++" by Main et al. (hereto referred to as Main).

As to claim 10, Wan as modified does not expressly state at what point the searching begins. However, in an analogous art, Main teaches said searching step begins at said assignment table index (a hash function and that the index obtained from said hash function is the starting point of any search within a database) (Main, page 571).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to implement the invention of Wan with the index search of Main in order to increase the efficiency of the database as suggested by Main (Main, page 571).

Allowable Subject Matter

12.   Claims 11-14, 16-20, 29-32 and 34-36 are allowable over the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William S. Powers whose telephone number is 751 272 8573. The examiner can normally be reached on m-f 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William S. Powers
Examiner
Art Unit 2134

7/6/2007

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER